



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5B9/P
 UNIQUE ID NUMBER: 7CM049
 COMBUSTOR: SAC
 ENGINE TYPE: TF

BYPASS RATIO: 5.9
 PRESSURE RATIO (π_{00}): 24.0
 RATED THRUST (F_{00}) (kN): 102.2

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	14.4	59.7	43.9	6.9
AS % OF ORIGINAL LIMIT	73.5	50.6	49.9	29.3
AS % OF CAEP/2 LIMIT (NO _x)			62.4	
AS % OF CAEP/4 LIMIT (NO _x)			76.5	
AS % OF CAEP/6 LIMIT (NO _x)			86.9	
AS % OF CAEP/8 LIMIT (NO _x)			105.4	

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES
 - DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	0.954	0.10	0.80	21.40	5.4
CLIMB OUT	85	2.2	0.794	0.10	0.80	17.90	2.1
APPROACH	30	4.0	0.280	0.80	3.70	8.80	0.3
IDLE	7	26.0	0.098	5.90	30.40	3.60	0.6
LTO TOTAL FUEL (kg) or EMISSIONS (g)			365	970	5012	3875	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				9.4	48.7	37.9	5.4
SIGMA (D _p /F ₀₀ in g/kN, or SN)							
RANGE (D _p /F ₀₀ in g/kN, or SN)							

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.2-99.6
TEMPERATURE (K)	281.5-283.6
ABS HUMIDITY (kg/kg)	0.0065-0.0075

FUEL

SPEC	Jet A
H/C	1.92
AROM (%)	19

MANUFACTURER: CFM International
 TEST ORGANIZATION: CFM56 Evaluation Engineering
 TEST LOCATION: Techspace Aero, Liege, Belgium
 TEST DATES: 13/11/1995

REMARKS

1. FAA Certification Report CR 0797/P, June 1995 and Certification Report CR-700 S3, October 2001
2. Engine S/N 779-194/1

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)